

The present invention is directed to a transmission rate control apparatus and a base station apparatus provided with a transmission rate control apparatus which includes reception circuitry that receives a received quality measured at a communication terminal; and transmission rate control circuitry that changes a transmission rate to the communication terminal based on the received quality, wherein the transmission rate control circuitry decreases the transmission rate when the received quality at a side of the communication terminal deteriorates. After the transmission rate control circuitry decreases the transmission rate when the received quality at a side of the communication terminal deteriorates, the transmission rate control circuitry changes the transmission rate to an original value when the received quality at the side of the communication terminal subsequently improves. The present invention also provides a communication terminal apparatus comprising monitor circuitry that monitors a received quality; judgment circuitry that judges whether the received quality deteriorates; and transmission circuitry that transmits the received quality at a timing at which the judgment circuitry judges that the received quality deteriorates.

Mahany discloses a mobile communication system wherein a base station maintains RF communication with mobile units using a

polling protocol which may communicate at a higher or lower data rate, depending on the channel conditions. The base station transmits a general polling message at the lower data rate, and, associated therewith, transmits a test pattern for evaluation by the mobile units. Upon receipt of the transmissions, the mobile units analyze the test pattern to determine whether communication at the higher data rate is possible. Based on the determination, the mobile units select the appropriate rate to transmit data messages. Col. 14, line 67 et seq., col. 21 line 60 et seq. and Fig. 12 describe that the mobile station derives a signal quality indication of the test signal from the base station for use in making the data rate selection decision, then switches to transmit at the standard rate, and communicates its data rate selection to the initiating unit. The mobile unit then switches to receive at either the standard or higher data rate depending on which it has selected. The base station, upon receipt of the return handshake, switches to transmit its message at the selected data rate. The test pattern can be associated with a query from a mobile unit having a message to send, or with a contention polling message from the base station.

The Applicants note that Mahany discloses a system wherein a second station (e.g. mobile station) evaluates the test pattern transmitted by a first station (e.g. base station) to determine

whether higher rate communication is possible and the second station transmits its data rate selection decision to the first station.

This is not at all like the present claimed invention wherein reception circuitry of a transmission rate control apparatus (e.g. in a base station apparatus) receives a received quality measured at a communication terminal (e.g. mobile station), changes a transmission rate to the communication terminal based on the received quality, and decreases the transmission rate when the received quality at a side of the communication terminal deteriorates.

The office action states that in Mahany the remote unit responds to the polling signal from the base station and transmits as its response a selection signal specifying the data rate and at the base station, a control means responds to this selection signal and automatically switches between plural data rates to adaptively select the best data rate dynamically according to changing operating conditions. The office action proposes that the aforementioned control means of Mahany constitutes the transmission rate control circuitry of the present claims.

However, the Applicants respectfully note that the present claims call for the transmission rate control apparatus to

receive a received quality measured at a communication terminal, whereas, in Mahany, the first station (e.g. base station) receives a rate indication signal indicating a rate selection decision already made at the second station (e.g. mobile station) based on received signal quality or strength. In Mahany, the second station makes the measurement and decides the rate, and the first station does not determine or decide the rate but merely responds to the rate already selected by the second station. In contrast, in the present claimed invention, the communication terminal merely measures the received quality, and the rate control apparatus receives the measured received quality and changes the rate based thereon.

Accordingly, it is submitted that the 35 USC 102 rejection of claims 31-34 over Mahany should be withdrawn.


Furthermore, it is submitted that Mahany does not even hint at the subject matter of claim 35 which is directed to a communication terminal apparatus comprising monitor circuitry that monitors a received quality, judgment circuitry that judges whether the received quality deteriorates, and transmission circuitry that transmits the received quality at a timing at which the judgment circuitry judges that the received quality deteriorates.

Accordingly, it is submitted that the 35 USC 102 rejection of claim 35 over Mahany should be withdrawn.

It is submitted that this application is in condition for allowance, and a notice to that effect is respectfully solicited.

If any issues remain which may be best resolved through a telephone communication, the Examiner is requested to telephone the undersigned at the local Washington, D.C. telephone number listed below.

Respectfully submitted,

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